Amendments to the Claims:

The following listing of claims will replace all prior versions, and listings, of claims in the application:

The following listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) Method for checking or calibrating the angle-dependent alignment of a reference structure of a high-precision test piece ~~(1)~~, using a device comprising

an adjustable or fixed retainer part ~~(3)~~ for retaining the test piece ~~(1)~~,

an adjustable measuring part ~~(5, 5a, 5b, 5c, 5d)~~, the measuring part ~~(5, 5a, 5b, 5c, 5d)~~ and the retainer part ~~(3)~~ being rotatable relative to one another about a retainer part axis ~~(4)~~ and a measuring part axis ~~(7)~~ intersecting the retainer part axis ~~(4)~~ at right angles, and an angle of rotation of the retainer part about the retainer part axis ~~(4)~~ and an angle of rotation of the measuring part about the measuring part axis ~~(7)~~ between the measuring part ~~(5, 5a, 5b, 5c, 5d)~~ and the retainer part ~~(3)~~ being measurable,

an optical unit ~~(8, 8a, 8b, 8c)~~ arranged on the measuring part ~~(5, 5a, 5b, 5c, 5d)~~ and having an optical detector ~~(9)~~ for receiving at least one test piece beam ~~(10, 10a, 10b, 10c, 10d)~~ which interacts with the test piece ~~(1)~~ and runs substantially in a measuring plane ~~(11)~~, through which the measuring part axis ~~(7)~~ passes perpendicularly and in which the retainer part axis ~~(4)~~ lies, and produces at least one point ~~(12)~~ on the detector ~~(9)~~, and

a control/regulation unit ~~(13)~~ at least for the motor-powered alignment of the optical unit ~~(8, 8a, 8b, 8c)~~ relative to the reference structure of the test piece ~~(1)~~ by means of motor-powered adjustment of the axis of rotation of the retainer part and of the axis of rotation of the measuring part as a function of the position of the at least one point ~~(12)~~ on the detector ~~(9)~~,

comprising the method steps

arrangement of the test piece ~~(1)~~ on the retainer part ~~(3)~~,

preliminary alignment of the optical unit ~~(8, 8a, 8b, 8c)~~ and/or of the reference structure of the test piece ~~(1)~~ so that the test piece beam ~~(10, 10a, 10b, 10c, 10d)~~ at least partly strikes the detector ~~(9)~~ and produces at least the one point ~~(12)~~ there,

evaluation of the position of the at least one point ~~(12)~~ on the detector ~~(9)~~ by the control/regulation unit ~~(13)~~,

relative fine alignment of the optical unit ~~(8, 8a, 8b, 8c)~~ relative to the reference structure by means of the control/regulation unit ~~(13)~~ as a function of the position of the at least one point ~~(12)~~ on the detector ~~(9)~~ so that the at least one point ~~(12)~~ reaches a certain reference position on the detector ~~(9)~~ and

determination of at least the angle of rotation of the retainer part and/or of the angle of rotation of the measuring part,

radiation ~~(30, 35a, 35b, 35c, 35d)~~ being produced by the reference structure of the test piece ~~(1)~~ or being modified with respect to a radiation parameter, in particular by reflection, stopping, filtration or shaping, and the produced or modified beam ~~(30, 35a, 35b, 35c, 35d)~~ forming the test piece beam ~~(10, 10a, 10b, 10c, 10d)~~.

2. (Currently Amended) Method according to Claim 1, the test piece ~~(1)~~ - in particular a theodolite, a level or a geodetic scanner – having an optical sighting unit ~~(18)~~ whichis adjustable about a vertical axis ~~(20)~~ and optionally a tilting axis ~~(21)~~,

determines a sighting axis and has an optically detectable mark, for example a reticule ~~(14)~~ or a light exit,

an angle of rotation of the vertical axis and optionally an angle of rotation of the tilting axis being determinable, and

a test piece lower part ~~(19)~~ being arranged on the retainer part ~~(3)~~ so that the retainer part axis ~~(4)~~ is substantially collinear with the vertical axis ~~(20)~~ and optionally the measuring part axis ~~(7)~~ is substantially collinear with the tilting axis ~~(21)~~,

a preliminary alignment of the optical sighting unit ~~(18)~~ being effected before or during the preliminary alignment of the optical unit ~~(8, 8a, 8b, 8c)~~, and

the angle of rotation of the vertical axis and/or optionally the angle of rotation of the tilting axis being determined.

3. (Currently Amended) Method according to Claim 1, the test piece ~~(1)~~ having a laser telemeter with a laser measuring beam emitter forming the reference structure and intended for producing a laser measuring beam which forms the test piece beam, comprising the additional method step of emission of a laser measuring beam by the laser telemeter.

4. (Currently Amended) Method according to Claim 2,

the radiation ~~(35a, 35b, 35c, 35d)~~ being emitted and shaped by an emitter ~~(31a, 31b, 31c)~~ arranged in the optical unit ~~(8, 8a, 8b, 8c)~~,

the radiation ~~(35a, 35b, 35c, 35d)~~ then being reflected by the reference structure of the test piece ~~(1)~~ and the test piece beam ~~(10a, 10b, 10c, 10d)~~ thus being formed, and

the test piece beam ~~(10a, 10b, 10c, 10d)~~ being focussed on to the detector ~~(9)~~ on striking a part of the optical unit ~~(8a, 8b, 8c)~~ and, in the case of exact alignment of the optical unit ~~(8a, 8b, 8c)~~ relative to the reference structure, producing at least one point ~~(12)~~ on the detector ~~(9)~~.

5. (Currently Amended) Method according to Claim 4, the reference structure being formed by a lens ~~(39)~~ of the sighting unit ~~(18)~~.

6. (Currently Amended) Method according to Claim 4, the reference structure being formed by a beam splitter cube of the sighting unit ~~(18)~~.

7. (Currently Amended) Method according to Claim 4, the reference structure being formed by an image recording surface - in particular a CCD chip – of the sighting unit ~~(18)~~.

8. (Currently Amended) Method according to Claim 2,

the reference structure being formed by the optically detectable mark which is illuminated actively or passively at least during the fine alignment, and

the radiation ~~(30, 35e)~~ being produced by the mark or modified with respect to the radiation parameter.

9. (Currently Amended) Method according to Claim 8, the mark being in the form of a reticule ~~(14)~~, which reticule ~~(14)~~ is self-illuminating or is illuminated, at least during the fine alignment, by an emitter arranged in the optical sighting unit ~~(18)~~, the test piece beam ~~(10, 10e)~~ thus formed being focussed directly or indirectly at least partly on to the detector ~~(9)~~ by means of an objective ~~(16)~~ of the sighting unit ~~(18)~~ and thus producing the at least one point ~~(12)~~ on the detector ~~(9)~~.

10. (Currently Amended) Method according to Claim 8, the mark being in the form of a reticule ~~(14)~~ and being illuminated, at least during the fine alignment, by means of an emitter ~~(31b)~~ arranged on the side of an objective ~~(16)~~ of the sighting unit ~~(18)~~, the reticule ~~(14)~~ being focussed directly or indirectly at least partly on to the detector ~~(9)~~ by means of the objective ~~(16)~~ of the sighting unit ~~(18)~~ and thus producing the at least one point ~~(12)~~ on the detector ~~(9)~~.

11. (Currently Amended) Method according to Claim 8, the mark being in the form of a reticule ~~(14)~~ and being illuminated, at least during the fine alignment, by means of an additional emitter arranged on the side of an eyepiece ~~(23)~~ of the sighting unit ~~(18)~~, in particular by means of an additional optical unit ~~(15)~~, the reticule ~~(14)~~ being focused directly or indirectly at least partly on to the detector ~~(9)~~ by means of an objective ~~(16)~~ of the sighting unit ~~(18)~~ and thus producing the at least one point ~~(12)~~ on the detector ~~(9)~~.

12. (Currently Amended) Method according to Claim 2,

the radiation being emitted in the direction of the eye piece~~(23)~~ by an additional optical unit ~~(15)~~ arranged on the side of an eye piece ~~(23)~~ or of an objective ~~(16)~~ of the sighting unit ~~(18)~~ and having a three-dimensional structuring, in particular in the form of a pattern, the radiation passing through the sighting unit ~~(18)~~, being modified by at least one reference structure in the sighting unit ~~(18)~~ with respect to a radiation parameter and thus forming the test piece beam ~~(10a, 10b, 10c, 10d)~~, and

the test piece beam ~~(10a, 10b, 10c, 10d)~~, after emergence from the objective ~~(16)~~ or eye piece ~~(23)~~ of the sighting unit ~~(18)~~, being focused on to the detector ~~(9)~~ on striking a part of the optical unit ~~(8a, 8b, 8c)~~, and producing a multiplicity of points ~~(12)~~ on the detector ~~(9)~~, and

optical errors, in particular aberrations and distortions, being detectable by evaluation of the multiplicity of points, detected by the detector ~~(9)~~, by the control/regulation unit ~~(13)~~.

13. (Currently Amended) Method according to Claim 2, a structure ~~(40)~~ of at least a part of the sighting unit ~~(18)~~ being focused on to the detector ~~(9)~~.

14. (Currently Amended) Method according to Claim 1, the test piece ~~(1)~~ being heated at least from one side by a thermal emitter for determining the thermal behaviour.